



6/18(N.E)
Tstepoe
2-3-03

RESPONSE UNDER 37 CFR 1.116
EXPEDITED PROCEDURE
EXAMINING GROUP 2814

326/03
C.R.

PATENT APPLICATION
Do. No. 9898-217

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Jae-Hyun Joo, et al.

Serial No. 10/055,270

Examiner: Anh D. Mai

Confirmation No. 6757

Filed: January 22, 2002

Group Art Unit: 2814

For: METHOD FOR MANUFACTURING A SEMICONDUCTOR DEVICE
HAVING A METAL-INSULATOR CAPACITOR

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Washington, D.C. 20231

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AMENDMENT AFTER FINAL REJECTION UNDER 37 CFR 1.116

Responsive to the Final Office Action, dated November 8, 2002, please amend the application as follows.

IN THE CLAIMS

The pending claims, as amended by this paper, should now read as follows:

1. (Twice amended) A method of fabricating a semiconductor device, comprising the steps of:

- forming a lower electrode on a substrate using a source having carbon;
- subjecting the lower electrode to a pre-annealing for removing carbon remaining in the lower electrode, wherein the pre-annealing is a thermal annealing under a selected atmosphere;
- forming a capacitor dielectric layer on the pre-annealed lower electrode, wherein the capacitor dielectric layer is formed of a crystalline material; and



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PATENT APPLICATION
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In re application of: Jae-Hyun JOO and Wan-Don KIM

Serial No. 10/055,270

Examiner: Mai, Anh D

Filed: January 22, 2002

Group Art Unit: 2814

For: METHOD FOR MANUFACTURING A SEMICONDUCTOR DEVICE
HAVING A METAL-INSULATOR CAPACITOR

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Assistant Commissioner for Patents,
Washington, D.C. 20231

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Responsive to the Office Action dated November 8, 2002, enclosed is an amendment in the above-identified application. The fee has been calculated as shown below.

CLAIMS AS AMENDED					
For:	Number After Amendment	Previous Number	Extra	Rate	Additional Fee
Total Claims	27	29	0	x \$18 =	\$0
Independent Claims	3	3	0	x \$84 =	\$0
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT					\$0

*greater of twenty (20) or number for which fee has been paid

**greater of three (3) or number for which fee has been paid

☒ Any deficiency or overpayment should be charged or credited to deposit account number 13-1703.

Respectfully submitted,

MARGER JOHNSON & McCOLLOM, P.C.



20575

PATENT TRADEMARK OFFICE

Alan T. McCollom
Reg. No. 28,881

MARGER JOHNSON & McCOLLOM, P.C.
1030 SW Morrison Street
Portland, OR 97205
(503) 222-3613

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ON: 1/21/03